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Serial No.: 09/916,611

Docket No.: 00306-00142

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



In re Application of:
Greg Volgas et al.

Serial No. 09/916,611

Filing Date: July 27, 2001

For: Manufacture And Use Of A
Herbicide Formulation

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Group Art Unit: 1616

Examiner: Pryor, Alton Nathaniel

APPELLANTS' BRIEF

Ashley I. Pezzner
CONNOLLY BOVE LODGE & HUTZ LLP
Reg. No. 35,646
P.O. Box 2207
Wilmington, DE 19899
(302) 888-6270

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APPEAL BRIEF**I. THE REAL PARTY OF INTEREST**

Helena Chemical Company is the real party of interest. The application was assigned and recorded on July 27, 2001, on Reel No. 012041 and Frame No. 0434.

II. RELATED APPEALS AND INTERFERENCES

The undersigned is not aware of any related appeals or interferences involving this application.

III. THE STATUS OF THE CLAIMS

Claims 1-91 are pending. Claims 3-7, 10, 13-17, 20-27, 30-32, 34-36, 41-43, 50-52, 54-65, 67, 68, 70, 71, 73, 82-85 and 91 are withdrawn from consideration. The subject of the appeal are claims 1, 2, 8, 9, 12, 18, 19, 28, 29, 33, 37-40, 44-49, 53, 66, 69, 72, 74-81 and 86-90 which are attached in Appendix I. Upon preparing the Appeal Brief the applicants noticed a couple minor typographical errors with respect to the claims (see

the Appendix, claims 53, 89 and 91). It is noted that the claim section is 23 pages long. The applicants authorize the Examiner to correct these typographical errors with respect to the claims. If the Examiner requests in the Examiner's Answer, the applicants will file an Amendment to correct the claims.

IV. STATUS OF AMENDMENTS AFTER FINAL

There were no Amendments After Final filed. However, the applicants filed a Request For Reconsideration on April 22, 2004, which was entered pursuant to the Advisory Action mailed June 3, 2004.

V. SUMMARY OF THE INVENTION

The invention is drawn to a method for manufacture and use of a herbicidal formulation of chlorinated carboxylic acid herbicides **in the acid form**. As disclosed in the background of the invention,

[m]any agricultural formulations contain **water-soluble salts of chlorinated carboxylic acid herbicides**. These salts, often alkylamine salts or metal salts, **are generally not as active as their acid equivalents**. For example, (2,4-dichlorophenoxy)acetic acid ("2,4-D") acid is known to be more herbicidally active than the dimethylamine salt of 2,4-D.

...

Another problem associated with the amine salts of some chlorinated carboxylic acid herbicides is their inability to mix with fertilizers. 2,4-D amine herbicides cannot be mixed directly into Uran (urea-ammonia nitrate) fertilizer **without some dilution in water**. This is a disadvantage for applicators, since this dilution practice increase the total spray volume they must apply per acre. (emphasis added) (see pages 1-3 of the specification).

As stated above, it was recognized that the prior art uses chlorinated carboxylic acid herbicides in the salt form. The applicants have found a way to use the more active chlorinated carboxylic acid herbicides in the acid form by dissolving the acid herbicide in a surfactant. One embodiment has at least one surfactant is present in a quantity equal to or greater than said at least one chlorinated carboxylic acid herbicide (see claim 1). These formulations have shown superior herbicidal activity when compared to standard salt and ester forms (see the abstract).

VI. REFERENCE APPLIED AGAINST THE CLAIMS

1. Berger et al. U.S. Patent No. 6,121,200 ("Berger").
2. Caldwell et al., "Toxicity of Herbicides 2,4-D, DEF, propanil, and trifluralin," *Archives of Environmental Contam. and Toxicology*, Vol. 8, No. 4, pp. 383-396 (1979) ("Caldwell").

VII. THE REJECTIONS APPEALED FROM

1. Claims 1, 2, 8, 9, 12, 18, 19, 28, 29, 33, 37-40, 44-49, 53, 66, 69, 72, 74-81, 86-90 were rejected under 35 U.S.C. 103(a) as being obvious over Berger and Caldwell.

VIII. THE ISSUES ON APPEAL

1. Whether claims 1, 2, 8, 9, 12, 18, 19, 28, 29, 33, 37-40, 44-49, 53, 66, 69, 72, 74-81, 86-90 are rejectable under 35 U.S.C. 103(a) as being obvious over Berger and Caldwell?

2. Whether Berger teaches using at least one fully solubolized chlorinated carboxylic acid herbicide in the **acid form** and at least about 8 weight % of at least one surfactant?
3. Whether Berger teaches away from using an acid herbicide in the acid form instead of the salt form?
4. Whether the Examiner has considered the references as a whole?
5. Whether the Examiner has selectively picked and chosen from the disclosed multitude of parameters without any direction?
6. Whether the Examiner's argument is based on hindsight reconstruction?
7. Whether Berger teaches using at least one surfactant in a quantity equal to or greater than said at least one chlorinated carboxylic acid herbicide?
8. Whether Berger teaches using a surfactant in an amount of at least about 50% by weight, when Berger discloses surfactant compositions in a concentration of about 5 to about 30%, preferably about 10% to about 25%?
9. Whether Berger teaches using a surfactant in an amount of 70 to 80% by weight, when Berger discloses surfactant compositions in a concentration of about 5 to about 30%, preferably about 10% to about 25%?
10. Whether Berger teaches using the chlorinated carboxylic acid herbicide in an amount from about 10 to about 20% by weight especially in view of the fact that Berger preferably teaches that the aqueous concentrate compositions contain about 35 to about 45% glyphosate salts and the preferred dry granular compositions contain about 50 to about 80% glyphosate salts?

11. Whether Berger teaches using the chlorinated carboxylic acid herbicide in an amount from about 10 to about 20% by weight and a surfactant in an amount of at least about 50% by weight, especially in view of the fact that Berger preferably teaches that the aqueous concentrate compositions contain about 35 to about 45% glyphosate salts and about 10 to about 15% surfactant compositions and the preferred dry granular compositions contain about 50 to about 80% glyphosate salts and about 10 to about 25% of the surfactant compositions?

12. Whether Berger teaches the applicants' claimed ratio of acid herbicide to surfactant from about 1:6 to about 1:1 in view of the fact that Berger teaches to use more herbicide than surfactant?

13. Whether Berger teaches a process to produce a herbicidal composition which comprises blending a fully solubilized acid herbicide in the **acid form** with a surfactant to form a solution provided that said chlorinated carboxylic acid herbicide and surfactant are present in an amount of about 1 part by weight of **chlorinated carboxylic acid herbicide to at least about 1.5 part by weight of surfactant**?

IX. GROUPING OF THE CLAIMS

Claims 1, 2, 8, 9, 12, 18, 19, 28, 29, 33, 37-40, 44-49, 53, 66, 69, 72, 74-81, 86-90 have been grouped together by the Examiner. The applicants believe that these claims should not stand or fall together for the reasons discussed in the argument section.

Group I, hereinafter refers to claims 2, 9, 29, 38, 40, 72, 77-80, 88 and 89.

Group II, hereinafter refers to claims 1, 8, 28, 37, 39, 69, 74-76, 86-87 and 90.

Group III, hereinafter refers to claims 12, 18, 19, 33, 44 and 45.

Group IV, hereinafter refers to claims 46 and 47.

Group V, hereinafter refers to claim 49.

Group VI, hereinafter refers to claims 48 and 53.

Group VII, hereinafter refers to claim 66.

Group VIII, hereinafter refers to claim 81.

X. ARGUMENTS

A. Group I

Issue 1: Whether claims 1, 2, 8, 9, 12, 18, 19, 28, 29, 33, 37-40, 44-49, 53, 66, 69, 72, 74-81, 86-90 are rejectable under 35 U.S.C. §103(a) as being obvious over Berger and Caldwell?

Issue 2: Whether Berger teaches using at least one fully solubilized chlorinated carboxylic acid herbicide in the acid form and at least about 8 weight % of at least one surfactant?

Issue 3: Whether Berger teaches away from using an acid herbicide in the acid form instead of the salt form?

Claims 1, 2, 8, 9, 12, 18, 19, 28, 29, 33, 37-40, 44-49, 53, 66, 69, 72, 74-81, 86-90

were rejected under 35 U.S.C. 103(a) as being obvious over Berger and Caldwell.

As discussed above and in the applicants' Background of the Invention,

Many agricultural formulations contain water-soluble salts of chlorinated carboxylic acid herbicides. These salts, often alkylamine salts or metal salts, are generally not as active as their acid equivalents. For example, (2,4-dichlorophenoxy)acetic acid ("2,4-D") acid is known to be more herbicidally active than the dimethylamine salt of 2,4-D.

...

Another problem associated with the amine salts of some chlorinated carboxylic acid herbicides is their inability to mix with fertilizers. 2,4-D amine herbicides cannot be mixed directly into Uran (urea-ammonia nitrate) fertilizer without some dilution in water. This is a disadvantage for applicators, since this dilution

practice increase the total spray volume they must apply per acre. (emphasis added).

Berger teaches using an acid herbicide in the salt form as discussed in the applicants' Background of the Invention section of the application.

Berger states at column 10, lines 47-51:

The present herbicidal compositions are not limited to a particular herbicide or mixture of herbicides. They may be used with a variety of pesticides, including but not limited to **herbicides in any of their water soluble salt forms**. (emphasis added).

Berger further states at column 11, lines 12-30:

Since **glyphosate in acid form has limited water solubility (about 1.2%) the water soluble salts of glyphosate are normally used for most applications**.

Among the water soluble salts of glyphosate are the trimethylsulfonium salt, the ammonium **salt**, the isopropylamine **salt**, and the alkali metal **salts**, such as sodium and potassium. These compounds due to their solubility in water are the agriculturally acceptable glyphosate-containing compounds generally used in commerce.

It is known to use mixtures of glyphosate and one or more of its **water soluble salts**. Previously mentioned European Patent 290,416 discloses the use of such mixtures which have the advantage of a higher concentration of glyphosate in the final product. However, **the low solubility of the glyphosate in acid form limits the amount of it in the total composition**. This amount will depend in general on the solubility of the water soluble salt used in the combination. (emphasis added)

As noted, these are all salts and Berger teaches away from using the acid form because it has limited water solubility. Furthermore, it is confirmed in Berger that salts are required at column 11, line 45 through 58 which states:

Stable aqueous concentrate compositions of the present invention can be made with glyphosate **salts** at a concentration from about 5% to about 50%, preferably about 35% to about 45%, surfactant composition at a

concentration of about 5% to about 25%, preferably about 10% to about 15%, and water making up the balance to 100%. Dry water soluble granular (WSG) or water dispersible granular (WDG) compositions of the present invention can be made with glyphosate salts at a concentration from about 10% to about 85%, preferably about 50% to about 80%, surfactant composition at a concentration of about 5% to about 30%, preferably about 10% to about 25%, and optionally inert ingredients making up the balance to 100%. (emphasis added).

Berger also states at column 12, lines 46-60:

In one preferred embodiment of the present invention the surfactant composition comprised of the amine surfactant component and the sulfated polyoxyalkylene alkylphenol having sulfonate substituents in the phenyl moiety and/or phosphate ester as above defined can effectively be used to formulate glyphosate. Glyphosate is the widely recognized common name for N-phosphonomethylglycine, the biologically active entity of which is the acid form and may be used in the form of an ester but is normally used in the form of water soluble salts. Water soluble salts include alkali metal salts of glyphosate, and organic salts of glyphosate including onium salts such as ammonium, sulfonium and phosphonium salts of glyphosate. The most preferred salts include ammonium, isopropylammonium and trimethylsulfonium salts of glyphosate. (emphasis added).

The Examiner argues that Berger does not teach solely on the use of chlorinated carboxylic acid herbicides in the salt form, but rather teaches that the chlorinated carboxylic acid herbicides are usually employed in salt form. The Examiner interprets the term usually as meaning in most cases rather than in all cases. Therefore, the Examiner deduces that there are instances in which Berger may find it useful to make a composition comprising 2,4-D (a chlorinated carboxylic acid herbicide) as a free acid. There were no situations given in Berger where one of ordinary skill in the art would select the acid form over the salt form.

Although Berger acknowledges that glyphosate may exist in the acid form, Berger teaches that the glyphosate is used in the salt form. Clearly, Berger teaches away from using the herbicide in the acid form because of the limited solubility. Again, the teaching of Berger to use glyphosate in the salt form is also recognized in the applicants' specification as the prior art. The applicants' specification at page 2, lines 1 through 9 state:

Chlorinated carboxylic acid herbicides are usually have traditionally been reacted into amine or other salts, which are soluble in water, or into esters which are oil soluble. **Both salts** and esters must then break down in the environment back into the acid, which is herbicidal.

It would be preferable, then, to apply the herbicides **as acids. However, they are not significantly soluble in water.** Previously, solvents used to formulate 2,4-D acid such as xylene range hydrocarbons, are known to be phytotoxic to plants and may enhance herbicide volatility and subsequent drift to non-target areas. Albaugh D-638 is one such product, but it further incorporates the ester form of 2,4-D into the formulation. (emphasis added).

Again, the applicants have recognized that glyphosate used in salt form is used in the prior art. However, it was not known to use the herbicide such as glyphosate in the acid form. For the above reasons, Berger teaches away from the applicants' claimed invention.

The Examiner combines Berger with Caldwell, a toxicology report on 2,4-D in the acid form. The Examiner asserts that a person skilled in the art could have seen that using Berger's surfactants would enhance the efficacy of the free acid form of 2,4-D. The applicants respectfully disagree. The existence of a toxicology report for 2,4-D in the acid form is not surprising. 2,4-D acid is the initial form in which the herbicide was discovered. However, commercial formulations have always been made from the ester or

amine salts of 2,4-D for the reasons stated in the patent application. The applicants acknowledge the prior existence of 2,4-D in the acid form. This is about the extent to which a toxicology report such as that from Caldwell helps a formulation chemist.

The Examiner takes the view that Cadwell teaches a herbicidal composition wherein 2,4-D is in free acid form. Examiner argues that there exist ample motivation for combining the prior art references of record since references individually teach herbicidal compositions. This is not motivation.

As stated above, Berger actually teaches away from using the free acid form of 2,4-D, since it is not water soluble. Berger further states in the Background of the Invention at col. 1, lines 24-29,

In this regard, a further important aspect of the present invention concerns surfactant compositions which are effective in the formulation of glyphosate-containing herbicidal compositions or pesticidal compositions of **other water soluble active ingredients**. (emphasis added).

In several other places of the patent, Berger is talking about amine salts of 2,4-D and other herbicides when he refers to them as water soluble. Free acid 2,4-D is **NOT** water soluble in appreciable amounts (see Berger at col. 11, lines 12-15). Only the amine salts are water soluble. Given this fact, it is even less likely that one skilled in the art would combine a toxicology report on the free acid 2,4-D and Berger's patent.

The applicants have discovered a way to dissolve the acid form of this herbicide into a form that is usable by the farmer. Other than D-638 (which the applicants disclose in the application) which uses an aromatic solvent to dissolve the acid in combination with 2,4-D ester, nobody has commercially introduced a herbicide product which contains 2,4-D in the acid form.

Issue 4: Whether the Examiner has considered the references as a whole?

Issue 5: Whether the Examiner has selectively picked and chosen from the disclosed multitude of parameters without any direction?

Issue 6: Whether the Examiner's argument is based on hindsight reconstruction?

The Examiner must consider the references as a whole, In re Yates, 211 USPQ 1149 (CCPA 1981). The Examiner cannot selectively pick and choose from the disclosed multitude of parameters **without any direction** as to the particular one selection of the reference **without proper motivation**. The mere fact that the prior art may be modified to reflect features of the claimed invention does not make modification, and hence claimed invention, obvious **unless the prior art suggested the desirability of such modification** is suggested by the prior art (In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984); In re Baird, 29 USPQ 2d 1550 (CAFC 1994) and In re Fritch, 23 USPQ 2nd. 1780 (Fed. Cir. 1992)). In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991) (in a determination under 35 U.S.C. § 103 it is impermissible to simply engage in a hindsight reconstruction of the claimed invention; the references themselves must provide some teaching whereby the applicant's combination would have been obvious); In re Dow Chemical Co., 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988) (under 35 U.S.C. § 103, both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure). The applicants disagree with the Examiner why one skilled in the art with the knowledge of the references would selectively modify the references in order to arrive at the applicants' claimed invention. The Examiner's argument is clearly based on hindsight reconstruction.

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching, suggestion, or incentive supporting this combination, although it may have been obvious to try various combinations of teachings of the prior art references to achieve the applicant's claimed invention, such evidence does not establish prima facie case of obviousness (In re Geiger, 2 USPQ 2d. 1276 (Fed. Cir. 1987)). There would be no reason for one skilled in the art to combine Berger and Caldwell. For the above reasons, this Group is patentable.

B. Group II

Issue 7: Whether Berger teaches using at least one surfactant is present in a quantity equal to or greater than said at least one chlorinated carboxylic acid herbicide?

In addition to the arguments presented in Group I above, Group II requires that at least one surfactant is present in a quantity equal to or greater than said at least one chlorinated carboxylic acid herbicide. Berger teaches away from this limitation. Berger discloses at col. 11, lines 45-59,

Stable aqueous concentrate compositions of the present invention can be made with glyphosate salts at a concentration from about 5% to about 50%, preferably about 35% to about 45%, surfactant composition at a concentration of about 5% to about 25%, preferably about 10% to about 15%, and water making up the balance to 100%. Dry water soluble granular (WSG) or water dispersible granular (WDG) compositions of the present invention can be made with glyphosate salts at a concentration from about 10% to about 85%, preferably about 50% to about 80%, surfactant composition at a concentration of about 5% to about 30%, preferably about 10% to about 25%, and optionally inert ingredients making up the balance to 100%. All percentages above are understood as being by weight. (emphasis added)

The preferred teaching for the aqueous concentrates and the dry granular compositions are to use much more glyphosate salts compared to the surfactant. The preferred aqueous concentrate compositions contain about 35 to about 45% glyphosate salts and the surfactant composition is at most less than half the glyphosate salt composition (about 10 to about 15% surfactant composition). The preferred dry granular compositions contain preferably about 50 to about 80% glyphosate salts and which is double the maximum amount of surfactant composition (about 10 to about 25% surfactant composition).

In fact, examples 1-5, 9-15, and 18-35 contain about 62% glyphosate salt solutions and only 13 to about 15grams of a surfactant composition and water (see col. 13, line 21 and col. 19, lines 50-55). Examples 6 and 7 do not even use 1 gram of a surfactant composition.

Clearly, Berger teaches away from having at least one surfactant present in a quantity equal to or greater than said at least one chlorinated carboxylic acid herbicide. For the above reasons, this Group is patentable.

C. Group III

Issue 8: Whether Berger teaches using a surfactant in an amount of at least about 50% by weight, when Berger discloses surfactant compositions in a concentration of about 5 to about 30%, preferably about 10% to about 25%?

In addition to the arguments presented in Groups I and II above, Group III further requires that the surfactant is present in an amount of at least about 50% by weight. As discussed above in Group II, Berger teaches away from this feature. Again, Berger discloses at col. 11, lines 45-59,

Stable aqueous concentrate compositions of the present invention can be made with glyphosate salts at a concentration from about 5% to about 50%, preferably about 35% to about 45%, surfactant composition at a concentration of about 5% to about 25%, preferably about 10% to about 15%, and water making up the balance to 100%. Dry water soluble granular (WSG) or water dispersible granular (WDG) compositions of the present invention can be made with glyphosate salts at a concentration from about 10% to about 85%, preferably about 50% to about 80%, surfactant composition at a concentration of about 5% to about 30%, preferably about 10% to about 25%, and optionally inert ingredients making up the balance to 100%. All percentages above are understood as being by weight. (emphasis added)

Berger discloses that the surfactant is used in at most 30% by weight. This is almost half the minimum amount claimed by the applicants. The preferred teaching for the aqueous concentrate and the dry granular compositions are to use much less than 50% by weight of the surfactant. The preferred aqueous concentrate composition contains about 10% to about 15% by weight surfactant composition (the applicants' claimed minimum amount is a factor of about 3 higher than the maximum preferred amount taught in Berger). The preferred dry granular compositions contain about 10% to about 25% weight surfactant composition (the applicants' claimed minimum amount is a factor of about 2 higher than the maximum preferred amount taught in Berger).

Clearly, Berger teaches away from the applicants' claimed invention. For the above reasons, this Group is patentable.

D. Group IV

Issue 9: Whether Berger teaches using a surfactant in an amount of 70 to 80% by weight, when Berger discloses surfactant compositions in a concentration of about 5 to about 30%, preferably about 10% to about 25%?

In addition to the arguments presented in Groups I -III above, Group IV further requires that the surfactant is present in an amount of at least about 70% by weight up to 80% by weight. As discussed above in Groups II and III, Berger at col. 11, lines 45-59 teaches away from this feature.

Berger discloses that the surfactant is used in at most 30% by weight. The minimum amount claimed by the applicants is over double the maximum amount disclosed by Berger. Berger preferably teaches to use much less than 70% by weight of the surfactant for the aqueous concentrate and the dry granular compositions. The preferred aqueous concentrate composition contains about 10% to about 15% by weight surfactant composition (the applicants' claimed minimum amount is a factor of about 4.5 higher than the maximum preferred amount taught in Berger). The preferred dry granular compositions contain about 10% to about 25% weight surfactant composition (the applicants' claimed minimum amount is a factor of about 3 higher than the maximum preferred amount taught in Berger).

Clearly, Berger teaches away from the applicants' claimed invention. For the above reasons, this Group is patentable.

E. Group V

Issue 10: Whether Berger teaches using the chlorinated carboxylic acid herbicide in an amount from about 10 to about 20% by weight especially in view of the fact that Berger preferably teaches that the aqueous concentrate composition contains about 35 to about 45% glyphosate salts and the preferred dry granular compositions contain about 50 to about 80% glyphosate salts?

In addition to the arguments presented in Group I above, this group requires said chlorinated carboxylic acid herbicide is present in an amount from about 10 to about 20% by weight. Again, Berger discloses at col. 11, lines 45-59,

Stable **aqueous concentrate** compositions of the present invention can be made with **glyphosate salts** at a concentration from about 5% to about 50%, **preferably about 35% to about 45%**, surfactant composition at a concentration of about 5% to about 25%, preferably about 10% to about 15%, and water making up the balance to 100%. **Dry water soluble granular** (WSG) or water dispersible granular (WDG) compositions of the present invention can be made with **glyphosate salts** at a concentration from about 10% to about 85%, **preferably about 50% to about 80%**, surfactant composition at a concentration of about 5% to about 30%, preferably about 10% to about 25%, and optionally inert ingredients making up the balance to 100%. All percentages above are understood as being by weight. (emphasis added)

It is acknowledged that Berger discloses a broad range from about 5 to about 50% for the herbicide salts. However, the applicants are claiming a very narrow range of about 10 to about 20 for in this herbicide in **acid form and not the salt form**.

However, Berger preferably teaches to use much more herbicide almost double the maximum amount claimed for this group. The preferred aqueous concentrate composition contains about 35% to about 55% by weight glyphosate salts (the applicants' claimed maximum amount is half the preferred minimum amount taught in Berger). The preferred dry granular compositions contain about 50% to about 80% weight surfactant composition (the applicants' claimed maximum amount is a factor of 2.5 less than the preferred minimum amount taught in Berger). Clearly, Berger teaches away from this Group and for the above reasons, this Group is patentable.

F. Group VI

Issue 11: Whether Berger teaches using the chlorinated carboxylic acid herbicide in an amount from about 10 to about 20% by weight and a surfactant in an amount of at least about 50% by weight, especially in view of the fact that Berger preferably teaches that the aqueous concentrate composition contains about 35 to about 45% glyphosate salts and about 10 to about 15% surfactant composition and the preferred dry granular compositions contain about 50 to about 80% glyphosate salts and about 10 to about 25% of the surfactant composition?

In addition to the arguments presented in Group I above, this group requires requires the limitations of Group III and V above. As stated above, Berger at col. 11, lines 45-59 teaches away from these limitations. Berger teaches the complete opposite of the claimed invention according to this Group of having a higher amount of chlorinated carboxylic acid herbicide and a much lower amount of surfactant (see Berger at col. 11, lines 45-59)

Clearly, Berger teaches away from this Group of claims! For the above reasons, this Group is patentable.

G. Group VII

Issue 12: Whether Berger teaches the claimed ratio of acid herbicide to surfactant from about 1:6 to about 1:1 in view of the fact that Berger teaches to use more herbicide than surfactant?

In addition to the arguments presented in Groups I-VI above, this group requires said ratio of acid herbicide to surfactant from about 1:6 to about 1:1. This ratio requires a minimum of about a 1:1 of acid herbicide to surfactant (about the same amount of acid herbicide to surfactant) up to a maximum ratio of about 6 times more surfactant than acid

herbicide. As repeated stated above, Berger, at col. 11, lines 45-59 teaches away from this ratio. For the above reasons, this Group is patentable.

H. Group VIII

Issue 13: Whether Berger teaches a process to produce a herbicidal composition which comprises blending a fully solubolized acid herbicide in the acid form with a surfactant to form a solution provided that said chlorinated carboxylic acid herbicide and surfactant are present in an amount of about 1 part by weight of chlorinated carboxylic acid herbicide to at least about 1.5 part by weight of surfactant?

In addition to the arguments presented in Groups I and II above, this group requires a process to produce a herbicidal composition which comprises blending a fully solubolized acid herbicide in the acid form with a surfactant to form a solution provided that said chlorinated carboxylic acid herbicide and surfactant are present in an amount of about 1 part by weight of chlorinated carboxylic acid herbicide to at least about 1.5 part by weight of surfactant. As stated above, Berger does not teach using the acid form of the herbicide, but instead teaches using the salt form. Furthermore, Berger teaches to use more herbicide than surfactant which is the opposite of what is claimed for this Group. As stated above, Berger teaches away from these two features. For the above reasons, this Group is patentable.

XI. CONCLUSION

It is believed that the claims define an invention which is new, useful, and unobvious. For the above reasons, the applicants request passage to allowance. This brief is being submitted in triplicate. The PTO is authorized to charge Deposit Account No. 03-2775 the amount of \$330.00. The Notice of Appeal was filed on April 22, 2004. It is believed that no extensions are required.

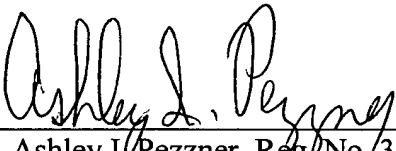
However, in the event that the undersigned is mistaken in his calculations, an appropriate extension of time to respond is respectfully petitioned for, and the Commissioner is hereby authorized to charge the account of the undersigned attorneys, Patent Office Deposit Account No. 03-2775, for any fees which may be due upon the filing of this paper.

The applicants again respectfully request that the previously submitted disclosure statement mailed on October 13, 2003, prior to the final office action, be made of record.


In addition, the applicants note that if the elected claims are determined allowable, the non-elected claims would also be allowable, because the non-elected claims are dependent claims which require all the features of the independent claims. The non-elected claims should be rejoined.

Respectfully submitted,

CONNOLLY BOVE LODGE & HUTZ LLP

By 
Ashley I. Pezzner, Reg. No. 35,646
P.O. Box 2207
Wilmington, DE 19899
(302) 888-6270

APPENDIX I

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1. (previously presented) A herbicide composition comprising at least one chlorinated carboxylic acid herbicide in the acid form and at least one surfactant in an effective amount such that said chlorinated carboxylic acid herbicide is dissolved in the surfactant and said at least one surfactant is present in a quantity equal to or greater than said at least one chlorinated carboxylic acid herbicide.
 2. (previously presented) A herbicide composition comprising at least one fully solubilized chlorinated carboxylic acid herbicide in the acid form and at least about 8 weight % of at least one surfactant.
 3. (withdrawn) The herbicide composition as claimed in claim 1, which further comprises at most 25% by weight of an ester of (2,4-dichlorophenoxy)acetic acid.
 4. (withdrawn) The herbicide composition as claimed in claim 2, which further comprises at most about 15% by weight of an ester of (2,4-dichlorophenoxy)acetic acid.
 5. (withdrawn) The herbicide composition as claimed in claim 1, which further comprises at most about 10% by weight of an ester of (2,4-dichlorophenoxy)acetic acid.
 6. (withdrawn) The herbicide composition as claimed in claim 2, which further comprises at most about 5% by weight of an ester of (2,4-dichlorophenoxy)acetic acid.
 7. (withdrawn) The herbicide composition as claimed in claim 1, which further comprises at most about 2% by weight of an ester of (2,4-dichlorophenoxy)acetic acid.

8. (original) The herbicide composition as claimed in claim 1, wherein said surfactant is present in an amount of at least about 10% by weight.
9. (original) The herbicide composition as claimed in claim 2, wherein said surfactant is present in an amount of at least about 20% by weight.
10. (withdrawn) The herbicide composition as claimed in claim 3, wherein said surfactant is present in an amount of at least about 30% by weight.
11. (original) The herbicide composition as claimed in claim 4, wherein said surfactant is present in an amount of at least about 40% by weight.
12. (withdrawn) The herbicide composition as claimed in claim 1, wherein said surfactant is present in an amount of at least about 50% by weight.
13. (withdrawn) The herbicide composition as claimed in claim 3, wherein said surfactant is present in an amount of at least 50% by weight.
14. (withdrawn) The herbicide composition as claimed in claim 4, wherein said surfactant is present in an amount of at least 50% by weight.
15. (withdrawn) The herbicide composition as claimed in claim 5, wherein said surfactant is present in an amount of at least 50% by weight.
16. (withdrawn) The herbicide composition as claimed in claim 6, wherein said surfactant is present in an amount of at least 50% by weight.
17. (withdrawn) The herbicide composition as claimed in claim 7, wherein said surfactant is present in an amount of at least 50% by weight.
18. (original) The herbicide composition as claimed in claim 1, wherein said surfactant is present in an amount from about 50 to about 90% by weight.

19. (original) The herbicide composition as claimed in claim 2, wherein said surfactant is present in an amount from about 50 to about 90% by weight.
20. (withdrawn) The herbicide composition as claimed in claim 3, wherein said surfactant is present in an amount from about 50 to about 90% by weight.
21. (withdrawn) The herbicide composition as claimed in claim 6, wherein said surfactant is present in an amount from about 50 to about 90% by weight.
22. (withdrawn) The herbicide composition as claimed in claim 1, wherein said surfactant is present in an amount from about 70 to about 80% by weight.
23. (withdrawn) The herbicide composition as claimed in claim 3, wherein said surfactant is present in an amount from about 70 to about 80% by weight.
24. (withdrawn) The herbicide composition as claimed in claim 4, wherein said surfactant is present in an amount from about 70 to about 80% by weight.
25. (withdrawn) The herbicide composition as claimed in claim 5, wherein said surfactant is present in an amount from about 70 to about 80% by weight.
26. (withdrawn) The herbicide composition as claimed in claim 6, wherein said surfactant is present in an amount from about 70 to about 80% by weight.
27. (withdrawn) The herbicide composition as claimed in claim 7, wherein said surfactant is present in an amount from about 70 to about 80% by weight.
28. (original) The herbicide composition as claimed in claim 1, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 1 to about 50% by weight.

29. (original) The herbicide composition as claimed in claim 2, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 1 to about 50% by weight.
30. (withdrawn) The herbicide composition as claimed in claim 3, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 1 to about 50% by weight.
31. (withdrawn) The herbicide composition as claimed in claim 5, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 1 to about 50% by weight.
32. (withdrawn) The herbicide composition as claimed in claim 7, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 1 to about 50% by weight.
33. (original) The herbicide composition as claimed in claim 18, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 1 to about 50% by weight.
34. (withdrawn) The herbicide composition as claimed in claim 21, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 1 to about 50% by weight.
35. (withdrawn) The herbicide composition as claimed in claim 22, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 1 to about 50% by weight.

36. (withdrawn) The herbicide composition as claimed in claim 26, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 1 to about 50% by weight.
37. (original) The herbicide composition as claimed in claim 1, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.
38. (previously presented) The herbicide composition as claimed in claim 4, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.
39. (previously presented) The herbicide composition as claimed in claim 7, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.
40. (original) The herbicide composition as claimed in claim 2, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.
41. (withdrawn) The herbicide composition as claimed in claim 3, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.
42. (withdrawn) The herbicide composition as claimed in claim 5, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.

43. (withdrawn) The herbicide composition as claimed in claim 17, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.
44. (original) The herbicide composition as claimed in claim 19, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.
45. (original) The herbicide composition as claimed in claim 21, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.
46. (original) The herbicide composition as claimed in claim 22, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.
47. (original) The herbicide composition as claimed in claim 26, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.
48. (original) The herbicide composition as claimed in claim 1, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 10 to about 20% by weight.
49. (original) The herbicide composition as claimed in claim 2, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 10 to about 20% by weight.

50. (withdrawn) The herbicide composition as claimed in claim 3, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 10 to about 20% by weight.
51. (withdrawn) The herbicide composition as claimed in claim 5, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 10 to about 20% by weight.
52. (withdrawn) The herbicide composition as claimed in claim 7, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 10 to about 20% by weight.
53. (original) The herbicide composition as claimed in claim 18, wherein said chlorinate d carboxylic acid herbicide is present in an amount from about 10 to about 20% by weight.¹
54. (withdrawn) The herbicide composition as claimed in claim 21, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 10 to about 20% by weight.
55. (withdrawn) The herbicide composition as claimed in claim 22, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 10 to about 20% by weight.
56. (withdrawn) The herbicide composition as claimed in claim 27, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 10 to about 20% by weight.
57. (withdrawn) The herbicide composition as claimed in claim 1, which further comprises at most 50% by weight of an aromatic solvent.

¹ Chlorinated is misspelled as "chlorinate d".

58. (withdrawn) The herbicide composition as claimed in claim 1, which further comprises at most 40% by weight of an aromatic solvent.
59. (withdrawn) The herbicide composition as claimed in claim 1, which further comprises at most 30% by weight of an aromatic solvent.
60. (withdrawn) The herbicide composition as claimed in claim 2, which further comprises at most 20% by weight of an aromatic solvent.
61. (withdrawn) The herbicide composition as claimed in claim 1, which further comprises at most 15% by weight of an aromatic solvent.
62. (withdrawn) The herbicide composition as claimed in claim 1, which further comprises at most 10% by weight of an aromatic solvent.
63. (withdrawn) The herbicide composition as claimed in claim 1, which further comprises at most 5% by weight of an aromatic solvent.
64. (withdrawn) The herbicide composition as claimed in claim 1, which further comprises at most about 10% by weight of an ester of (2,4-dichlorophenoxy)acetic acid and said chlorinated carboxylic acid herbicide is present in an amount from about 10 to about 20% by weight, said surfactant is present in an amount from about 70 to about 80% by weight.
65. (withdrawn) The herbicide composition as claimed in claim 64, which further comprises at most 50% by weight of a solvent.
66. (previously presented) A herbicide composition containing a chlorinated carboxylic acid herbicide in the acid form and a surfactant in the ratio of acid herbicide to surfactant from about 1:6 to about 1:1.

67. (withdrawn) The herbicide as claimed in claim 1, wherein said chlorinated carboxylic acid herbicide is a synthetic auxin or a quinoline carboxylic acid.
68. (withdrawn) The herbicide as claimed in claim 3, wherein said chlorinated carboxylic acid herbicide is a benzoic acid, phenoxy-carboxylic acid or pyridine carboxylic acid.
69. (original) The herbicide as claimed in claim 1, wherein said chlorinated carboxylic acid herbicide is
Chloramben, dicamba, 2,4,5-trichlorophenoxy acetic acid, 2,4-dichlorophenoxy acetic acid, 2,4-dichlorophenoxy butyric acid, clomeprop, dichlorprop, dichlorprop-P, monochlorophenoxy acetic acid, monochlorophenoxy butyric acid, mecoprop, mecoprop-P, clopyralid, fluroxypyr, picloram, triclopyr, quinclorac or quinmerac.
70. (withdrawn) The herbicide as claimed in claim 2, wherein said chlorinated carboxylic acid herbicide is a synthetic auxin or a quinoline carboxylic acid.
71. (withdrawn) The herbicide as claimed in claim 4, wherein said chlorinated carboxylic acid herbicide is a benzoic acid, phenoxy-carboxylic acid or pyridine carboxylic acid.
72. (original) The herbicide as claimed in claim 2, wherein said chlorinated carboxylic acid herbicide is
Chloramben, dicamba, 2,4,5-trichlorophenoxy acetic acid, 2,4-dichlorophenoxy acetic acid, 2,4-dichlorophenoxy butyric acid, clomeprop, dichlorprop, dichlorprop-P, monochlorophenoxy acetic acid,

monochlorophenoxy butyric acid, mecoprop, mecoprop-P, clopyralid, fluroxypyr, picloram, triclopyr, quinclorac or quinmerac.

73. (withdrawn) The herbicide as claimed in claim 1, wherein the herbicide composition does not contain an alkylated fatty acid.
74. (original) The herbicide as claimed in claim 1, wherein the herbicide composition does not contain an alkylated plant derived oil.
75. (original) The herbicide as claimed in claim 1, wherein the herbicide composition does not contain an alkylated animal derived oil.
76. (original) The herbicide as claimed in claim 1, wherein the herbicide composition does not contain an alkylated fatty acid, alkylated plant derived oil and an alkylated animal derived oil.
77. (original) The herbicide as claimed in claim 2, wherein the herbicide composition does not contain an alkylated fatty acid.
78. (original) The herbicide as claimed in claim 2, wherein the herbicide composition does not contain an alkylated plant derived oil.
79. (original) The herbicide as claimed in claim 2, wherein the herbicide composition does not contain an alkylated animal derived oil.
80. (original) The herbicide as claimed in claim 2, wherein the herbicide composition does not contain an alkylated fatty acid, alkylated plant derived oil and an alkylated animal derived oil.
81. (previously presented) A process to produce a herbicidal composition which comprises blending a fully solubilized acid herbicide in the acid form with a surfactant to form a solution provided that said chlorinated carboxylic acid

herbicide and surfactant are present in an amount of about 1 part by weight of chlorinated carboxylic acid herbicide to at least about 1.5 part by weight of surfactant.

82. (withdrawn) The herbicide as claimed in claim 1, which further comprises at least one of the following additional components selected from the group

consisting of

Methylated fatty acids,

Ethylated fatty acids,

Butylated fatty acids,

Alkylated soybean oil,

Alkylated canola oil,

Alkylated coconut oil,

Alkylated sunflower oil,

Mineral oils,

Vegetable oils,

Fatty acids,

Polybutenes and

Epoxified seed oils.

83. (withdrawn) The herbicide as claimed in claim 1, which further comprises at least one of the following additional components selected from the group

consisting of Methylated C6-C19 fatty acids,

Methylated Tall oil fatty acids,

Methylated Oleic acid,

Methylated Linoleic acid,
Methylated Linolenic acid,
Methylated Stearic acid,
Methylated Palmitic acid,
Ethylated C6-C19 fatty acids,
Ethylated Tall oil fatty acids,
Ethylated Oleic acid,
Ethylated Linoleic acid,
Ethylated Linolenic acid,
Ethylated Stearic acid,
Ethylated Palmitic acid,
Butylated C6-C19 fatty acids,
Butylated Tall oil fatty acids,
Butylated Oleic acid,
Butylated Linoleic acid
Butylated Linolenic acid,
Butylated Stearic acid,
Butylated Palmitic acid,
Methylated soybean oil,
Ethylated soybean oil,
Butylated soybean oil,
Methylated canola oil,
Ethylated canola oil,

Butylated canola oil,
Methylated coconut oil,
Ethylated coconut oil,
Butylated coconut oil,
Methylated sunflower oil,
Ethylated sunflower oil,
Butylated sunflower oil,
Paraffinic mineral oils,
Naphthenic mineral oils,
Aromatic mineral oils,
Soybean oil,
Canola oil,
Cottonseed oil,
C6-C19 fatty acids,
Tall oil fatty acids,
Oleic acid,
Linoleic acid,
Linolenic acid,
Stearic acid,
Palmitic acid and
Epoxified soybean oil.

84. (withdrawn) The herbicide as claimed in claim 2, which further comprises at least one of the following additional components selected from the group consisting of
- Methylated fatty acids,
 - Ethylated fatty acids,
 - Butylated fatty acids,
 - Alkylated soybean oil,
 - Alkylated canola oil,
 - Alkylated coconut oil,
 - Alkylated sunflower oil,
 - Mineral oils,
 - Vegetable oils,
 - Fatty acids,
 - Polybutenes and
 - Epoxified seed oils.

85. (withdrawn) The herbicide as claimed in claim 2, which further comprises at least one of the following additional components selected from the group consisting of
- Methylated C6-C19 fatty acids,
 - Methylated Tall oil fatty acids,
 - Methylated Oleic acid,
 - Methylated Linoleic acid,
 - Methylated Linolenic acid,

Methylated Stearic acid,
Methylated Palmitic acid,
Ethylated C6-C19 fatty acids,
Ethylated Tall oil fatty acids,
Ethylated Oleic acid,
Ethylated Linoleic acid,
Ethylated Linolenic acid,
Ethylated Stearic acid,
Ethylated Palmitic acid,
Butylated C6-C19 fatty acids,
Butylated Tall oil fatty acids,
Butylated Oleic acid,
Butylated Linoleic acid
Butylated Linolenic acid,
Butylated Stearic acid,
Butylated Palmitic acid,
Methylated soybean oil,
Ethylated soybean oil,
Butylated soybean oil,
Methylated canola oil,
Ethylated canola oil,
Butylated canola oil,
Methylated coconut oil,

Ethylated coconut oil,
Butylated coconut oil,
Methylated sunflower oil,
Ethylated sunflower oil,
Butylated sunflower oil,
Paraffinic mineral oils,
Naphthenic mineral oils,
Aromatic mineral oils,
Soybean oil,
Canola oil,
Cottonseed oil,
C6-C19 fatty acids,
Tall oil fatty acids,
Oleic acid,
Linoleic acid,
Linolenic acid,
Stearic acid,
Palmitic acid and
Epoxified soybean oil.

86. (original) The herbicide as claimed in claim 1, wherein the at least one surfactant is selected from the group consisting of
- Alcohol alkoxylate,
Alcohol alkoxylate sulfate,

Alkylphenol alkoxylate,
Alkanolamide,
Alkylaryl sulfonate,
Amine oxide,
Amine,
Betaine derivative,
Block polymers of ethylene and propylene glycol,
Carboxylated alcohol or alkylphenol alkoxylate,
Diol,
Diphenyl sulfonate derivative,
Ether,
Ethoxylated amine,
Ethoxylated fatty acid,
Ethoxylated fatty ester and oils,
Ethylene carbonate,
Fatty ester,
Glycerol ester,
Glycol,
Phosphate ester surfactant,
Propylene Carbonate,
Sarcosine derivative,
Silicone-based surfactant,
Sorbitan derivative,

Sucrose derivative,
glucose derivative,
Sulfate of alkoxyated alkylphenol ,
sulfonate of alkoxyated alkylphenol,
Sulfate of alcohol and
Tristyrylphenol Alkoxyate.

87. (original) The herbicide as claimed in claim 1, wherein the at least one surfactant is selected from the group consisting of

- A) Alcohol alkoxyates based on branched and linear alcohols containing ethylene oxide or propylene oxide
- B) Alcohol alkoxyate sulfates,
- C) Nonylphenol alkoxyate containing ethylene oxide,
- D) Nonylphenol alkoxyate containing propylene oxide,
- E) Octylphenols alkoxyate containing ethylene oxide
- F) Octylphenols alkoxyate containing propylene oxide,
- G) Fatty amine alkoxyates,
- H) Butanediols,
- I) Butyl cellulose² ether,
- J) Butyl carbitol,
- K) Propylene glycol,
- L) Ethylene glycol,
- M) Dipropylene glycol,
- N) Diethylene glycol,

² I) Cellulose is misspelled.

- O) Phosphate esters of alcohol alkoxylates,
- P) Phosphate esters of alkylphenol alkoxylates,
- Q) Sorbitan esters,
- R) Alkoxylated sorbitan esters and
- S) Alkylpolyglucosides,

88. (original) The herbicide as claimed in claim 2, wherein the at least one surfactant is

selected from the group consisting of

Alcohol alkoxylate,

Alcohol alkoxylate sulfate,

Alkylphenol alkoxylate,

Alkanolamide,

Alkylaryl sulfonate,

Amine oxide,

Amine,

Betaine derivative,

Block polymers of ethylene and propylene glycol,

Carboxylated alcohol or alkylphenol alkoxylate,

Diol,

Diphenyl sulfonate derivative,

Ether,

Ethoxylated amine,

Ethoxylated fatty acid,

Ethoxylated fatty ester and oils,

Ethylene carbonate,
Fatty ester,
Glycerol ester,
Glycol,
Phosphate ester surfactant,
Propylene Carbonate,
Sarcosine derivative,
Silicone-based surfactant,
Sorbitan derivative,
Sucrose derivative,
glucose derivative,
Sulfate of alkoxylated alkylphenol ,
sulfonate of alkoxylated alkylphenol,
Sulfate of alcohol and
Tristyrylphenol Alkoxylate.

89. (original) The herbicide as claimed in claim 2, wherein the at least one surfactant is selected from the group consisting of

- A) Alcohol alkoxylates based on branched and linear alcohols containing ethylene oxide or propylene oxide
- B) Alcohol alkoxylate sulfates,
- C) Nonylphenol alkoxylate containing ethylene oxide,
- D) Nonylphenol alkoxylate containing propylene oxide,
- E) Octylphenols alkoxylate containing ethylene oxide

- F) Octylphenols alkoxylate containing propylene oxide,
- G) Fatty amine alkoxylates,
- H) Butanediols,
- I) Butyl cellulose³ ether,
- J) Butyl carbitol,
- K) Propylene glycol,
- L) Ethylene glycol,
- M) Dipropylene glycol,
- N) Diethylene glycol,
- O) Phosphate esters of alcohol alkoxylates,
- P) Phosphate esters of alkylphenol alkoxylates,
- Q) Sorbitan esters,
- R) Alkoxylated sorbitan esters and
- S) Alkylpolyglucosides.

90. (original) The herbicide as claimed in claim 68, wherein the at least one surfactant is selected from the group consisting of
- Alcohol alkoxylate,
 - Alcohol alkoxylate sulfate,
 - Alkylphenol alkoxylate,
 - Alkanolamide,
 - Alkylaryl sulfonate,
 - Amine oxide,
 - Amine,

³ (I) cellulose is misspelled

Betaine derivative,
Block polymers of ethylene and propylene glycol,
Carboxylated alcohol or alkylphenol alkoxylate,
Diol,
Diphenyl sulfonate derivative,
Ether,
Ethoxylated amine,
Ethoxylated fatty acid,
Ethoxylated fatty ester and oils,
Ethylene carbonate,
Fatty ester,
Glycerol ester,
Glycol,
Phosphate ester surfactant,
Propylene Carbonate,
Sarcosine derivative,
Silicone-based surfactant,
Sorbitan derivative,
Sucrose derivative,
glucose derivative,
Sulfate of alkoxylated alkylphenol ,
sulfonate of alkoxylated alkylphenol,
Sulfate of alcohol and

Tristyrylphenol Alkoxylate.

91. (withdrawn) The herbicide as claimed in claim 71, wherein the at least one surfactant is selected from the group consisting of

- A) Alcohol alkoxylates based on branched and linear alcohols containing ethylene oxide or propylene oxide
- B) Alcohol alkoxylate sulfates,
- C) Nonylphenol alkoxylate containing ethylene oxide,
- D) Nonylphenol alkoxylate containing propylene oxide,
- E) Octylphenols alkoxylate containing ethylene oxide
- F) Octylphenols alkoxylate containing propylene oxide,
- G) Fatty amine alkoxylates,
- H) Butanediols,
- I) Butyl cellulose⁴ ether,
- J) Butyl carbitol,
- K) Propylene glycol,
- L) Ethylene glycol,
- M) Dipropylene glycol,
- N) Diethylene glycol,
- O) Phosphate esters of alcohol alkoxylates,
- P) Phosphate esters of alkylphenol alkoxylates,
- Q) Sorbitan esters,
- R) Alkoxylated sorbitan esters and
- S) Alkylpolyglucosides.

⁴ (I) cellulose is misspelled